

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) ~~In a computer graphics system, a~~ A method for use a computer graphics system for applying texture mapping in per-pixel operations, the computer graphics system performing the method comprising:

receiving a plurality of parameters that are used to define a pixel value at a pixel in a primitive;

selecting parameters from the plurality of parameters to generate selected parameters and unselected parameters where the unselected parameters are the plurality of parameters that are not selected;

substituting a texture value from a texture map in place of at least one selected parameter used in an algorithm that uses the selected parameters, the texture value varying over the primitive;

determining the pixel value by using the unselected parameters and the texture value varying over the primitive, wherein the set of unselected parameters are not a texture value and the texture value is associated with the selected parameters; and

storing the generated pixel value in a frame buffer of the computer graphics system.

2. (Previously presented) The method as recited in claim 1, further comprising: displaying the pixel according to the determined pixel value on a display device.

3. (Original) The method as recited in claim 1, wherein the plurality of parameters includes per-primitive parameters, which are defined over the entire primitive.

4. (Original) The method as recited in claim 1, wherein the primitive is a polygon.

5. (Original) The method as recited in claim 1, wherein the plurality of parameters includes both scalar and vector parameters.

6. (Original) The method as recited in claim 3, wherein the plurality of parameters includes one or more of emission material color, ambient material color, global ambient light color, attenuation factor, ambient light color, diffuse material color, diffuse light color, specular material color, specular light color, a surface normal vector, a specular exponent, an environment map color, and a shadow color.

7. (Previously presented) The method as recited in claim 1, comprising determining the texture value further comprises the operations of:

receiving texture coordinates for accessing a set of texture maps; and
accessing the texture maps in response to the texture coordinates to generate the texture value.

8. (Previously presented) The method as recited in claim 7, wherein the accessed textures includes a plurality of texture elements, the method further comprising the operation of:

filtering accessed texture elements of the texture map onto the selected pixel to generate the texture value associated with the pixel.

9. (Previously presented) The method as recited in claim 1, wherein a light value is generated for the pixel value by evaluating a lighting equation that is defined in terms of the substituted texture value from the texture map.

10. (Currently amended) A device for generating per-pixel values of pixels in a primitive by using texture parameters, the pixel values of the pixels in the primitive being partially defined by a plurality of parameters, where a pixel value is not such a parameter, the device comprising:

a texture memory for storing a set of texture maps;
a texture unit for receiving texture coordinates for accessing a set of selected texture maps in the texture memory, the set of selected texture maps being associated with a set of selected parameters wherein the selected parameters are selected from among the plurality of parameters that partially define a pixel value in the primitive, the texture unit generating a texture value associated with the pixel from each of the selected texture maps, and wherein at

least one other parameter in the plurality of parameters are not selected and the at least one other parameter that is not selected from the plurality of parameters define a set of unselected parameters; and

a rendering unit for generating the pixel value in response to the generated texture values and the set of unselected parameters;

and a frame buffer in communication with said rendering unit, said frame buffer accepting said generated pixel value for storage.

11. (Original) The device as recited in claim 10, wherein the primitive is a polygon.

12. (Original) The device as recited in claim 10, wherein one or more of the selected parameters are selected from a parameter group consisting of emission material color, ambient material color, global ambient light color, attenuation factor, ambient light color, diffuse material color, diffuse light color, specular material color, specular light color, a surface normal vector, a specular exponent, an environment map color, and a shadow color.

13. (Original) The device as recited in claim 10, wherein the plurality of parameters includes both scalar and vector parameters.

14. (Original) The device as recited in claim 10, wherein the pixel value is a light value that is generated by evaluating a lighting equation using the plurality of parameters.

15. (Currently amended) A computer graphics system for generating per-pixel values for pixels in a primitive by using texture parameters, the pixel values being defined by a plurality of parameters, the system comprising:

a bus;

a processor coupled to the bus;

a main memory coupled to the bus;

a storage unit coupled to the bus; and

a graphics subsystem coupled to receive a plurality of parameters defining the pixel values for the pixels in the primitive, the graphics subsystem including:

means for selecting parameters from the plurality of parameters to generate selected parameters and unselected parameters where the unselected parameters are the plurality of parameters that are not selected;

means for substituting a texture value from a texture map in place of at least one selected parameter used in an algorithm that uses the selected parameter to determine a pixel value, the texture value varying over the primitive; and

means for determining the pixel value by using the unselected parameters and the texture value varying over the primitive, wherein the set of unselected parameters are not a texture value and the texture value is associated with the selected parameters;

and a frame buffer in communication with said rendering unit, said frame buffer accepting said generated pixel value for storage.

16. (Original) The system as recited in claim 15, wherein one or more of the selected parameters are selected from a parameter group consisting of emission material color, ambient material color, global ambient light color, attenuation factor, ambient light color, diffuse material color, diffuse light color, specular material color, specular light color, a surface normal vector, a specular exponent, an environment map color, and a shadow color.

17. (Original) The system as recited in claim 15, wherein the plurality of parameters includes both vector and scalar parameters.

18. (Previously presented) The system as recited in claim 15, wherein the pixel value is a light value that is generated by evaluating a lighting equation using the substituted texture value from the texture map.

19. (Original) The system as recited in claim 15, wherein the primitive is a polygon.

20. (Previously presented) The system as recited in claim 15, comprising means for determining a texture value by filtering an accessed set of texture maps to generate texture values.